

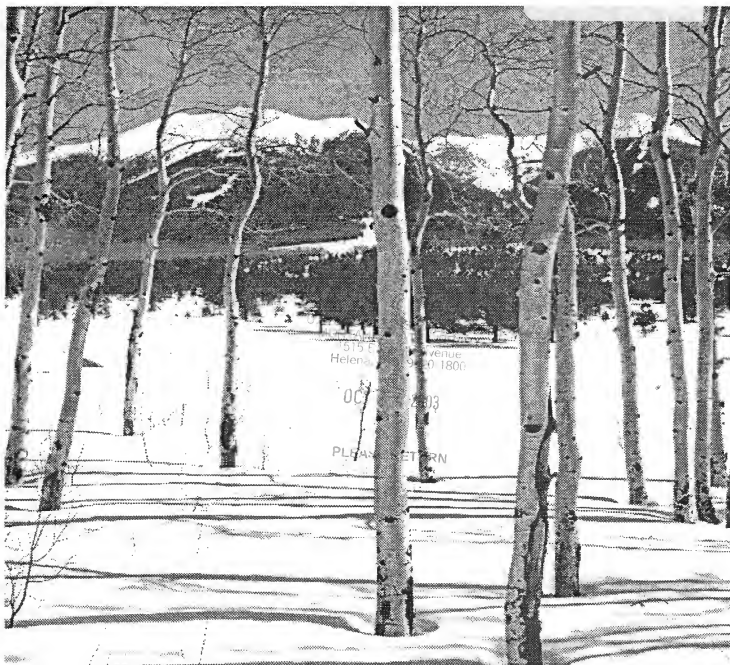
Soil
Conservation
Service



Montana

Basin Outlook Report

June 1, 1993



PLEASE RETURN



3 0864 1004 8771 2



MONTANA Water Supply Outlook Report as of June 1, 1993

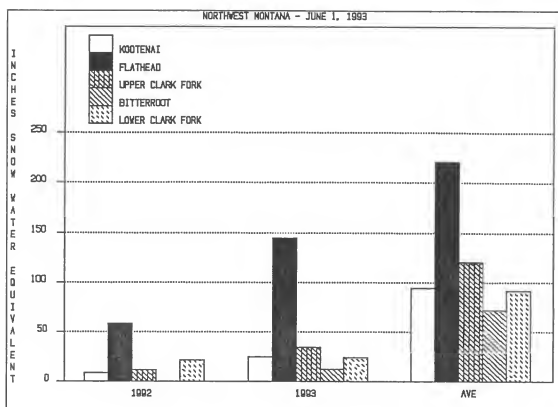
Water supply conditions were quite varied during the month of May. In the northeast part of the state, water users did not receive badly needed rain, while those dealing with full reservoirs in the southwestern part of the state hoped the rains would stop. Water supplies in the extreme northern part of the state still are well below average, while those in the southwest and southcentral part of the state should have adequate water supplies.

SNOWPACK

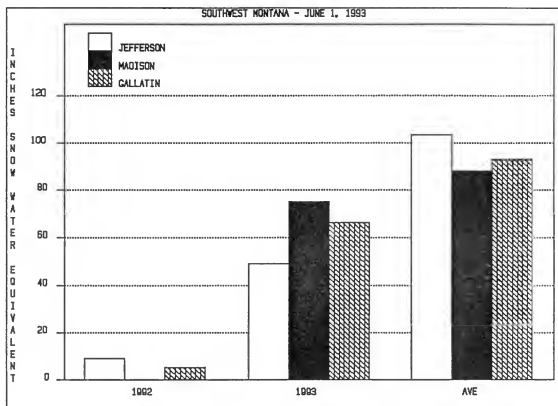
Remaining snowpacks are ranging from below to well below average for this time of year. However, the snowpack that remains is well above those of last year at this time.

Data to generate the following snowpack table is primarily from SNOTEL sites.

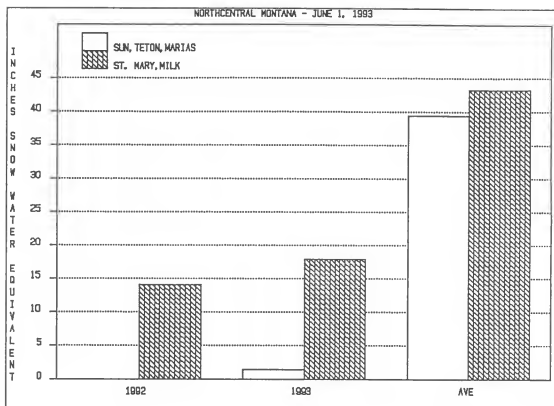
RIVER BASIN	% OF AVERAGE
KOOTENAI	26
FLATHEAD	49
UPPER CLARK FORK	27
BITTERROOT	17
LOWER CLARK FORK	26
JEFFERSON	47
MADISON	85
GALLATIN	71
MAINSTEM MISSOURI	12
SMITH-JUDITH-MUSSELSHELL	15
SUN-TETON-MARIAS	4
ST. MARY AND MILK	41
UPPER YELLOWSTONE	65
LOWER YELLOWSTONE	45



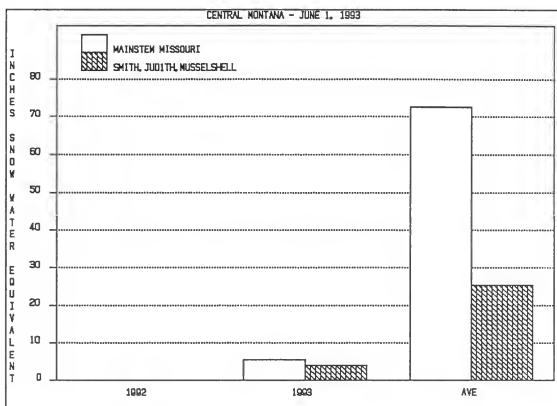
RIVER BASIN	BASIN SWE (inches)	YEAR	PERCENT OF AVERAGE
Kootenai	8.2	1992	9
	24.7	1993	26
	94.6	Average	
Flathead	58.4	1992	20
	144.8	1993	49
	295.2	Average	
Upper Clark Fork	11.4	1992	9
	34.1	1993	27
	128.2	Average	
Bitterroot	0.0	1992	0
	12.6	1993	17
	72.4	Average	
Lower Clark Fork	21.5	1992	23
	23.7	1993	26
	92.1	Average	



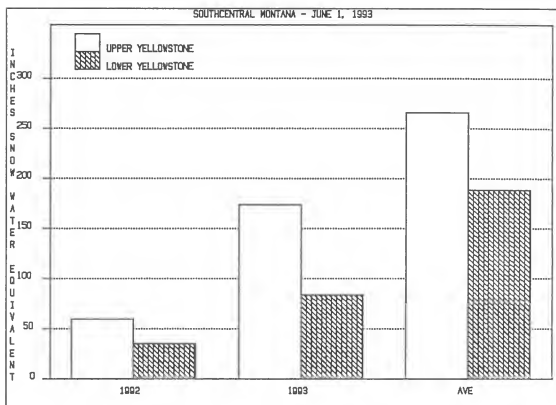
<u>RIVER BASIN</u>	<u>BASIN SWE</u> <u>(inches)</u>	<u>YEAR</u>	<u>PERCENT OF</u> <u>AVERAGE</u>
Jefferson	9.1	1992	9
	49.0	1993	47
	103.6	Average	
Madison	0.0	1992	0
	75.4	1993	85
	88.3	Average	
Gallatin	5.4	1992	6
	66.2	1993	71
	93.4	Average	



RIVER BASIN	BASIN SWE (inches)	YEAR	PERCENT OF AVERAGE
Sun, Teton, Marias	0.0	1992	0
	1.5	1993	4
	39.4	Average	
St. Mary, Milk	14.1	1992	33
	17.9	1993	41
	43.2	Average	



<u>RIVER BASIN</u>	<u>BASIN SWE (inches)</u>	<u>YEAR</u>	<u>PERCENT OF AVERAGE</u>
Mainstem Missouri	0.2	1992	1
	5.4	1993	7
	72.6	Average	
Smith, Judith, Musselshell	0.2	1992	1
	3.9	1993	15
	25.3	Average	



RIVER BASIN	BASIN SWE (inches)	YEAR	PERCENT OF AVERAGE
Upper Yellowstone	59.4	1992	22
	174.1	1993	65
	266.0	Average	
Lower Yellowstone	35.5	1992	19
	84.5	1993	45
	188.7	Average	

PRECIPITATION

May valley precipitation west of the Divide was slightly above average and east of the Divide was varied with most stations below to well below average.

May mountain precipitation west of the Continental Divide ranged from below average to average. East of the Continental Divide May ranged from below to above average. Water year precipitation west of the Continental Divide remains below average and east of the Continental Divide ranges from below average to near average.

RIVER BASIN	MAY % OF AVERAGE	WATER YEAR % OF AVERAGE
KOOTENAI	95	78
FLATHEAD	93	84
UPPER CLARK FORK	85	86
BITTERROOT	78	82
LOWER CLARK FORK	110	79
JEFFERSON	79	93
MADISON	96	105
GALLATIN	99	99
MAINSTEM MISSOURI	93	93
SMITH-JUDITH-MUSSELSHELL ...	91	93
SUN-TETON-MARIAS	110	83
St. Mary and Milk	67	79
UPPER YELLOWSTONE	99	95
LOWER YELLOWSTONE	118	96

RESERVOIRS

Reservoir storages remain are below average in the Flathead, Jefferson and Milk River Basins; average in the Kootenai, Upper Clark Fork, Bitterroot, and Mainstem Missouri River Basins; and above average in the Lower Clark Fork, Madison, Gallatin, Smith-Judith-Musselshell, Upper Yellowstone, Lower Yellowstone and Sun-Teton-Marias River Basins.

RIVER BASIN	% OF CAPACITY	% OF AVERAGE
KOOTENAI	52	93
FLATHEAD	63	80
UPPER CLARK FORK	92	104
BITTERROOT	93	105
LOWER CLARK FORK	97	116
JEFFERSON	53	75
MADISON	94	114
GALLATIN	81	119
MAINSTEM MISSOURI	90	109
SMITH-JUDITH-MUSSELSHELL	99	125
SUN-TETON-MARIAS	66	113
MILK	54	85
UPPER YELLOWSTONE	68	129
LOWER YELLOWSTONE	70	111

STREAMFLOW

Provisional May streamflow data in the Columbia River Basin generally were near average; in the Missouri River Basin generally were above average; and in the Yellowstone River Basin generally were well above average.

Assuming current conditions persist, seasonal volume streamflows are forecast to be from well below average in northcentral Montana, to near average in southwest Montana.

RIVER BASIN	JUNE-JULY FORECASTS	JUNE-JULY FORECASTS
	% OF AVERAGE	% OF LAST YEAR
KOOTENAI	59	97
FLATHEAD	54	136
UPPER CLARK FORK	50	182
BITTERROOT	52	176
LOWER CLARK FORK	52	161
JEFFERSON	70	225
MADISON	84	129
GALLATIN	86	221
MAINSTEM MISSOURI	66	159
SMITH-JUDITH-MUSSELSHELL	84	359
SUN-TETON-MARIAS	43	151
ST. MARY AND MILK	56	--
UPPER YELLOWSTONE	69	146
LOWER YELLOWSTONE	70	134

NOTE: The "FORECASTS % OF LAST YEAR" column in the table above, is comparing this seasons forecast volumes with the forecast volumes of last year at this same time. It is not comparing this years forecast volumes with what actually occurred last year.

Provisional streamflow data indicates unregulated peak streamflows in the Columbia River Basin occurred during May 15 to May 21 and ranged from 72 to 92 percent of average; the Missouri River Basin unregulated peak streamflows occurred during May 18 to May 22 and ranged from 33 to 119 percent of average; and the Yellowstone River Basin occurred during May 21 to May 23 and ranged from 58 to 116 percent of average.

Provisional daily peak streamflow volumes and dates for unregulated streams are as follows:

	CFS	Date	Percent of Average
COLUMBIA RIVER DRAINAGE			
Blackfoot R nr Bonner	7,200	5/16	79
Clark Fk R ab Missoula	11,295	5/17	72
Bitterroot R nr Darby	4,300	5/21	73
Clark Fk R bl Missoula	23,413	5/17	77
Clark Fk R at St. Regis	30,600	5/17	81
N Fk Flathead R nr Columbia Falls	18,900	5/15	92
M Fk Flathead R nr West Glacier	19,000	5/15	86
MISSOURI RIVER DRAINAGE			
Big Hole R nr Melrose	4,910	5/22	66
Ruby R ab Reservoir	--		
Gallatin R nr Gateway	5,585	5/22	108
Gallatin R nr Logan	6,310	5/22	119
Missouri R at Toston	17,000	5/23	95
Marias R nr Shelby	3,410	5/18	33
S Fk Musselshell R ab Martinsdale	--		
YELLOWSTONE RIVER DRAINAGE			
Yellowstone R at Corwin Springs	19,500	5/21	116
Yellowstone R at Livingston	21,213	5/22	107
Boulder R nr Big Timber	2,950	5/22	58
Stillwater R nr Absarokee	3,691	5/22	58
Clarks Fk nr Belfry	5,860	5/22	78
Yellowstone R at Billings	36,800	5/23	90

SURFACE WATER SUPPLY INDEX

The Surface Water Supply Index (SWSI) is a measure of available surface water supplies during the spring and summer months. The index ranges from -4.0 to +4.0. A SWSI of -4.0 represents an extremely dry condition, 0 is a near normal condition and +4.0 represents an extremely wet condition. The SWSI provides a scale to evaluate various levels of wetness or dryness and water supply conditions across the state. The SWSI takes into account snowpack, mountain precipitation, soil moisture and available reservoir storage.

SWSI RATING SURFACE WATER CONDITION

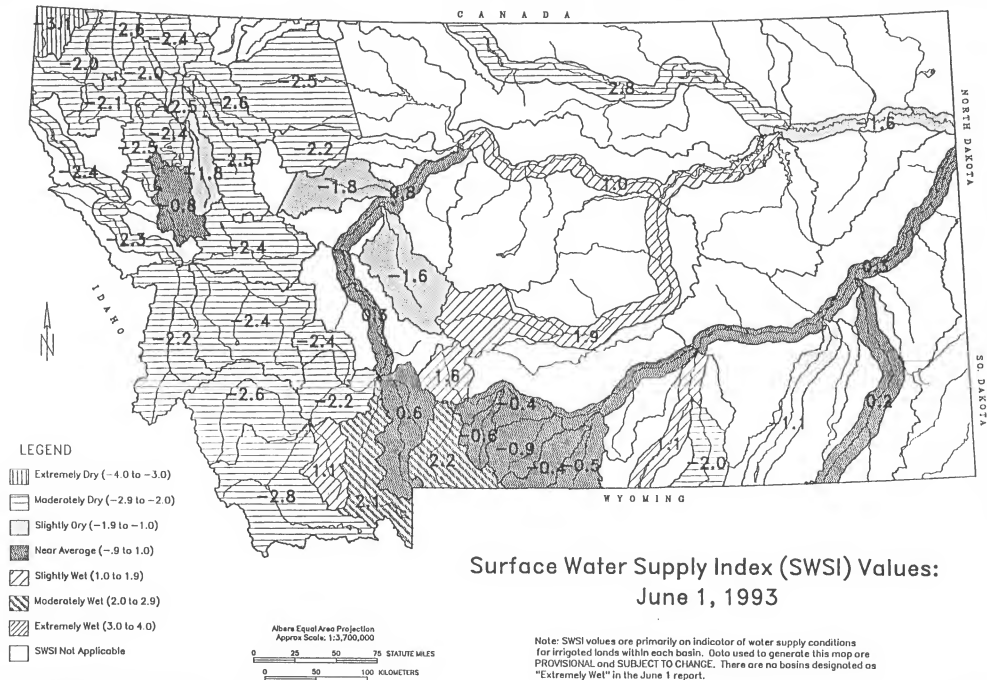
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

SWSI's as of June 1, 1993 for the remainder of the 1993 irrigation season.

SWSI Rating	Basin
-2.8	Kootenai River at Ft. Steele (Kootenai in Canada)
-2.6	Tobacco River
-2.6	Kootenai Ft. Steele to Libby Dam
-2.0	Kootenai River below Libby Dam
-2.1	Fisher River
-3.1	Yaak River
-2.4	North Fork Flathead River
-2.6	Middle FORK Flathead River
-2.5	South Fork Flathead River
-2.5	Flathead River at Columbia Falls
-2.0	Stillwater/Whitefish Rivers
-1.8	Swan River
-2.4	Flathead River at Polson
-0.8	Mission Valley
-2.5	Little Bitterroot River
-2.4	Clark Fork River above Rock Creek
-2.4	Blackfoot River
-2.4	Clark Fork River above Missoula
-2.2	Bitterroot River
-2.3	Clark Fork River below Bitterroot River
-2.4	Clark Fork River below Flathead River
-2.8	Beaverhead River
1.1	Ruby River
-2.6	Big Hole River
-2.4	Boulder River (Jefferson)
-2.2	Jefferson River
2.1	Madison River
0.6	Gallatin River
0.3	Missouri River above Canyon Ferry
0.8	Missouri River below Canyon Ferry

SWSI's as of June 1, 1993 for the remainder of the 1993 irrigation season.

-1.6	Smith River
-1.8	Sun River
-2.2	Teton River
-2.8	Birch/Dupuyer Creeks
-2.5	Marias River
1.9	Musselshell River
1.0	Missouri River above Ft. Peck
-1.6	Missouri River below Ft. Peck
-2.8	Milk River (USBR users)
-3.5	Milk River (other users)
2.2	Yellowstone River above Livingston
1.6	Shields River
-0.6	Boulder River (Yellowstone)
-0.9	Stillwater River
-0.4	Rock/Red Lodge Creeks
-0.5	Clarks Fork River
-0.4	Yellowstone River above Bighorn River
1.1	Bighorn River below Bighorn Lake
-2.0	Little Bighorn River
0.3	Yellowstone River below Bighorn River
-1.1	Tongue River
0.2	Powder River



KOOTENAI RIVER BASIN in Montana as of June 1, 1993

Remaining snowpack in the Kootenai River Basin is well below average. Snow water content was 26 percent of average and 301 percent of last year. The East Kootenai in British Columbia snow water content was 31 percent of average and 124 percent above last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was average at 95 percent and was 27 percent above last May. Water year precipitation, beginning October 1, 1992, remains below average at 78 percent and is 9 percent above last year.

Lake Koocanusa storage on the last day of May was average at 93 percent and 15 percent below last year.

June through July streamflows are forecast to be well below average at 59 percent and 3 percent below those of last year. Provisional May streamflow data at the Fisher River near Libby was about 68 percent of average and 85 percent above last year; the Yaak River near Troy was about 68 percent of average and 92 percent above last year; and the Kootenai below Libby Dam was about 104 percent of average and 20 percent above last year.

Surface Water Supply Index (SWSI) rating for the Kootenai River at Ft. Steele (Kootenai in Canada) was -2.8; the Tobacco River was -2.6; the Kootenai Ft. Steele to Libby Dam was -2.6; the Kootenai River below Libby Dam was -2.0; the Fisher River was -2.1; and the Yaak River was -3.1.

KOOTENAI RIVER BASIN in Montana Streamflow Forecasts - June 1, 1993

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)		30%	10%	
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	30 Yr Avg (1000AF)
TOBACCO nr Eureka							
JUN-JUL	23	31	36	58	41	49	62
JUN-SEP	32	41	47	62	53	62	76
KOOTENAI b1 Libby Dam (1,2)							
JUN-JUL	1220	1830	2110	58	2390	3000	3633
JUN-SEP	1820	2540	2870	62	3200	3920	4626
FISHER nr Libby							
JUN-JUL	18.0	30	39	56	48	60	70
JUN-SEP	29	42	51	59	60	74	86
YAAK nr Troy							
JUN-JUL	41	57	72	48	92	123	151
JUN-SEP	59	75	90	52	111	142	174

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		30 Yr Avg (1000AF)
KOOTENAI at Leonia (1,2)							
JUN-JUL	1360	2100	2440	61	2780	3520	4010
JUN-SEP	1930	2800	3200	63	3600	4470	5091

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

KOOTENAI RIVER BASIN in Montana Reservoir Storage (1000AF) End of May				
Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
LAKE KOOCANUSA	5748.0	2971.0	3486.0	3186.0

KOOTENAI RIVER BASIN in Montana Watershed Snowpack Analysis - June 1, 1993			
Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
EAST KOOTENAI in B.C.	4	124	40
KOOTENAI MAINTSTEM in MT	7	301	26
TOBACCO	2	135	41
FISHER	1	0	0
YAAK	2	0	0
KOOTENAI in MT	7	301	26
KOOTENAI ab Bonners Ferry	11	186	31

FLATHEAD RIVER BASIN as of June 1, 1993

Remaining snowpack in the Flathead River Basin is well below average. Snow water content was 49 percent of average and 242 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation during May was average at 93 percent and 45 percent above last May. Water year precipitation, beginning October 1, 1992, is below average at 84 percent and 8 percent above last year.

Reservoir storage on the last day of May was below average at 80 percent and 21 percent below last year. Combined Camas reservoir storage was 72 percent of average and 29 percent below last year; the combined Mission Valley reservoir storage was 109 percent of average and 37 percent above last year; Hungry Horse storage was 64 percent of average and 36 percent below last year; and Flathead Lake storage was 108 percent of average and 2 percent above last year.

June through July streamflows are forecast to be well below average at 54 percent and 36 percent above those of last year. Provisional May streamflow data for the North Fork Flathead near Columbia Falls was 106 percent of average and 49 percent above last year; the Middle Fork Flathead near West Glacier was 111 percent of average and 36 percent of last year; the South Fork Flathead near Columbia Falls was 170 percent of average and 110 percent above last year; and the Flathead at Columbia Falls was 108 percent of average and 38 percent above last year.

Provisional daily streamflow peaks for the North Fork Flathead River near Columbia Falls indicate it peaked on May 15 at 18,900 cfs and was 92 percent of average and the Middle Fork Flathead River near West Glacier peaked on May 15 at 19,000 cfs and was 86 percent of average.

Surface Water Supply Index (SWSI) rating for the North Fork Flathead River was -2.4; the Middle Fork Flathead River was -2.6; the South Fork Flathead River was -2.5; the Flathead River at Columbia Falls was -2.5; the Stillwater/Whitefish Rivers were -2.0; the Swan River was -1.8; the Flathead River at Polson was -2.4; Mission Valley was -0.8; and the Little Bitterroot River was -2.5.

FLATHEAD RIVER BASIN Streamflow Forecasts - June 1, 1993

	<--- Drier ---		Future Conditions		--- Wetter --->		
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)		30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	(1000AF)
NF FLATHEAD nr Columbia Falls							
JUN-JUL	355	425	475	54	525	595	872
JUN-SEP	480	560	615	59	670	750	1046
MF FLATHEAD nr West Glacier							
JUN-JUL	335	395	440	50	485	545	877
JUN-SEP	450	520	570	56	620	690	1027

		<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt		Chance of Exceeding *						
Forecast		90%	70%	50% (Most Prob)		30%	10%	30 Yr Avg
Period		(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	(1000AF)
SF FLATHEAD nr Columbia Fls (1,2)								
JUN-JUL		365	500	560	55	620	755	1019
JUN-SEP		470	610	670	58	730	870	1153
FLATHEAD at Columbia Falls (2)								
JUN-JUL		1220	1380	1490	52	1600	1760	2840
JUN-SEP		1550	1750	1890	57	2030	2230	3317
STILLWATER nr Whitefish								
JUN-JUL		41	49	54	66	59	67	82
JUN-SEP		56	64	70	69	76	84	101
WHITEFISH nr Kalispell								
JUN-JUL		29	32	34	59	36	39	58
JUN-SEP		37	40	43	61	46	49	71
SWAN nr Bigfork								
JUN-JUL		199	225	240	75	255	280	321
JUN-SEP		260	290	310	77	330	360	404
FLATHEAD nr Polson (1,2)								
JUN-JUL		1300	1630	1780	54	1930	2260	3315
JUN-SEP		1580	2000	2190	57	2380	2800	3850

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

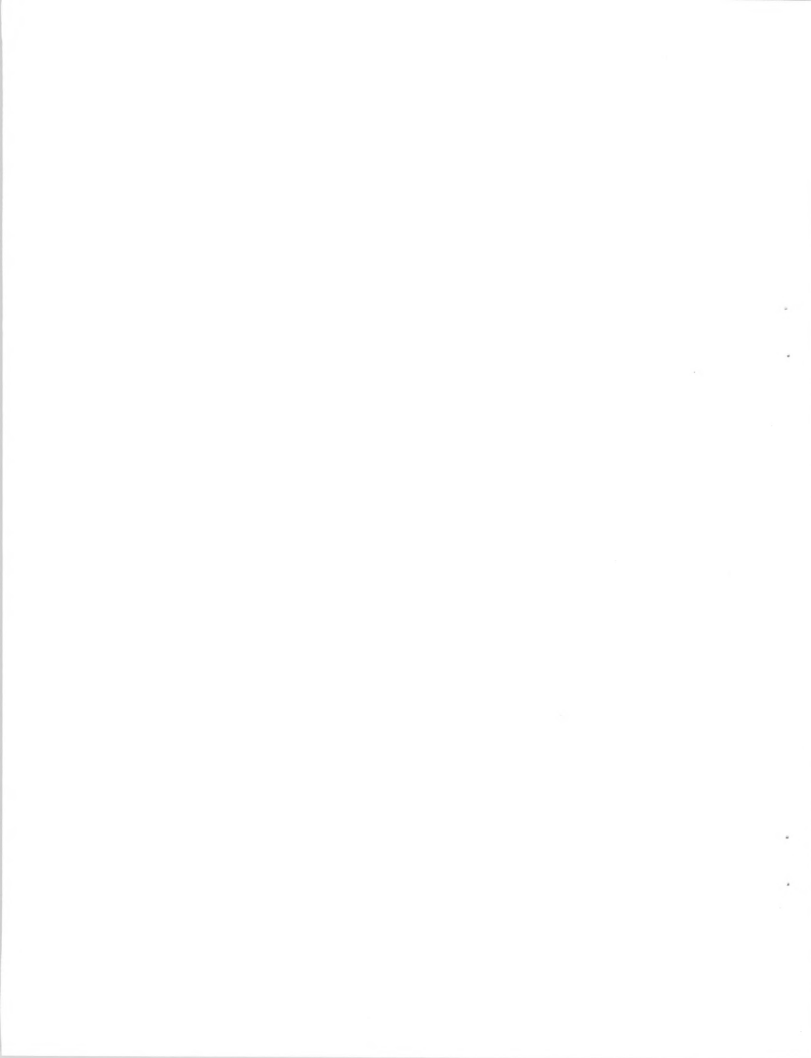
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

FLATHEAD RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
CAMAS (4)	45.2	22.3	31.5	31.1
MISSION VALLEY (8)	100.0	75.2	55.0	68.9
HUNGRY HORSE	3451.0	1695.0	2647.0	2659.0
FLATHEAD LAKE	1791.0	1605.0	1581.0	1480.0

FLATHEAD RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
NORTH FORK FLATHEAD	7	191	41
MIDDLE FORK FLATHEAD	4	138	31
SOUTH FORK FLATHEAD	2	275	70
STILLWATER-WHITEFISH	4	0	42
SWAN	6	253	67
MISSION VALLEY	4	246	66
LITTLE BITTERROOT-ASHLEY	1	0	0
JOCKO	3	192	39
FLATHEAD	19	231	49



UPPER CLARK FORK RIVER BASIN as of June 1, 1993

Remaining snowpack in the Upper Clark Fork River Basin is well below average. Snow water content was 27 percent of average and 361 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was below average at 85 percent and 127 percent above last May. Water year precipitation, beginning October 1, 1992, remains below average at 86 percent and 22 percent above last year.

Reservoir storage on the last day of May was average at 104 percent and 21 percent above last year. Georgetown Lake storage was 110 percent of average and 6 percent above last year; and Nevada Creek storage was 89 percent of average and 106 percent above last year.

June through July streamflows are forecast to be well below average at 50 percent and 82 percent above last year. Provisional May data for Blackfoot near Bonner was 87 percent of average and 46 percent above last May; Flint Creek near Southern Cross was about 88 percent of average and 227 percent above last May; Rock Creek near Clinton was 85 percent of average and 108 percent above last year; the Clark Fork above Milltown was 71 percent of average and 166 percent above last May; and the Clark Fork River above Missoula was 80 percent of average and 75 percent above last May.

Provisional daily streamflow peaks for the Blackfoot near Bonner indicate it peaked on May 16 at 7,200 cfs which was 79 percent of average and the Clark Fork above Missoula peaked on May 17 at 11,295 cfs which was 72 percent of average.

Surface Water Supply Index (SWSI) rating for the Clark Fork River above Rock Creek was -2.4; the Blackfoot River was -2.4; and the Clark Fork River above Missoula was -2.4.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 1993

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						30 Yr Avg (1000AF)
Forecast	90%	70%	50% (Most Prob)	30%	10%		
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		

MOULTON RES	inflow (million gal.)						
JUN-JUN	10.0	14.0	18.0	30	30	47	60
JUN-JUL	13.0	19.0	25	30	41	64	82

WARM SPRINGS CK	at Anaconda (2)						
JUN-JUL	10.0	12.0	14.0	54	17.0	22	26
JUN-SEP	16.0	19.0	21	60	25	31	35

LITTLE BLACKFOOT nr	Garrison						
JUN-JUL	7.0	11.0	15.0	44	24	37	34
JUN-SEP	11.0	16.0	21	51	31	47	41

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->						30 Yr Avg (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
FLINT CK nr Southern Cross (2)							
JUN-JUL	1.8	2.6	3.3	41	4.6	6.5	8.0
JUN-SEP	3.1	4.0	5.0	47	6.8	9.5	10.6
FLINT CK bl Boulder Ck							
JUN-JUL	12.0	14.0	16.0	47	21	27	34
JUN-SEP	21	25	28	56	34	43	50
LOWER WILLOW CK RES inflow							
JUN-JUL	0.8	0.9	1.0	22	1.7	2.8	4.6
JUN-SEP	1.4	1.5	1.7	31	2.5	3.7	5.5
MF ROCK CK nr Philipsburg							
JUN-JUL	12.0	17.0	21	50	25	30	42
JUN-SEP	16.0	22	26	53	30	37	49
ROCK CK nr Clinton							
JUN-JUL	54	64	74	45	89	111	165
JUN-SEP	77	91	104	51	121	146	202
NEVADA CK nr Finn							
JUN-JUL	1.5	2.1	2.7	36	4.3	6.6	7.5
JUN-SEP	2.2	2.9	3.7	40	5.4	8.0	9.2
CLEARWATER nr Clearwater							
JUN-JUL	23	34	42	65	50	61	65
JUN-SEP	33	44	51	69	58	69	74
BLACKFOOT nr Bonner							
JUN-JUL	104	173	220	53	265	335	414
JUN-SEP	173	250	300	59	350	425	505
CLARK FORK ab Milltown							
JUN-JUL	85	125	165	49	205	270	339
JUN-SEP	137	190	240	54	290	365	442
CLARK FORK ab Missoula							
JUN-JUL	215	315	385	51	455	555	753
JUN-SEP	350	460	540	57	620	730	947

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
GEORGETOWN LAKE	31.0	29.8	28.1	27.0
LOWER WILLOW CREEK		NO REPORT		
NEVADA CREEK	12.6	10.1	4.9	11.4

UPPER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CLARK FORK ab FLINT CREEK	6	485	32
FLINT CREEK	3	0	19
ROCK CREEK	2	0	21
CLARK FORK ab BLACKFOOT	10	591	28
BLACKFOOT	6	192	29
UPPER CLARK FORK	15	319	29

BITTERROOT RIVER BASIN as of June 1, 1993

Remaining snowpack in the Bitterroot River Basin is well below average. Snow water content was 17 percent of average and last year the snowpack had melted out. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was below average at 78 percent and 93 percent above last May. Water year precipitation, beginning October 1, 1992, remains below average at 82 percent and 2 percent above last year.

Reservoir storage on the last day of May was 105 percent of average and 3 percent above last year. Painted Rocks Lake storage was 110 percent of average and 2 percent above last year and Como storage was 100 percent of average and 4 percent above last year.

June through July streamflows are forecast to be well below average at 52 percent and 76 percent above last year. Provisional May streamflow data for the Bitterroot near Darby was 80 percent of average and 49 percent above last May; Rock Creek Como inflow to Darby was 135 percent of average; and the Bitterroot at Missoula was 105 percent of average and 53 percent above last May.

Provisional daily streamflow peaks for the Bitterroot River near Darby indicate the peak occurred on May 21 at 4,300 cfs and 73 percent of average.

Surface Water Supply Index (SWSI) rating for the Bitterroot River was -2.2.

BITTERROOT RIVER BASIN
Streamflow Forecasts - June 1, 1993

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->						30 Yr Avg (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	30% (1000AF)	10% (1000AF)		
WF BITTERROOT nr Conner (2)							
JUN-JUL	17.0	22	27	36	37	51	75
JUN-SEP	22	28	35	39	46	63	89
BITTERROOT nr Darby							
JUN-JUL	80	119	145	55	171	210	262
JUN-SEP	117	159	187	60	215	255	311
ROCK CK nr Darby (2)							
JUN-JUL	15.0	21	25	58	29	35	43
JUN-SEP	18.0	24	28	60	32	39	47
SKALKAHO CK nr Hamilton							
JUN-JUL	9.0	12.0	14.0	47	16.0	19.0	29
JUN-SEP	14.0	17.0	19.0	53	22	25	36

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->					30 Yr Avg (1000AF)
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)	

BURNT FORK CK nr Stevensville (2)

JUN-JUL	5.5	8.4	10.3	57	12.2	15.1	18.2
JUN-SEP	8.0	12.0	14.0	63	17.0	21	23

BITTERROOT at Missoula

JUN-JUL	265	335	385	52	435	505	736
JUN-SEP	310	390	445	52	500	580	853

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

BITTERROOT RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
PAINTED ROCKS LAKE	31.7	33.4	32.8	30.4
COMO	34.9	28.8	27.6	28.9

BITTERROOT RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	
			Average
WEST FORK BITTERROOT	2	0	16
EAST SIDE BITTERROOT	2	0	18
WEST SIDE BITTERROOT	4	0	18
BITTERROOT	8	0	17

LOWER CLARK FORK RIVER BASIN as of June 1, 1993

Remaining snowpack in the Lower Clark Fork River Basin is well below average. Snow water content was 26 percent of average and 143 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation during May was above average at 110 percent and 117 percent above last May. Water year precipitation, beginning October 1, 1992, was below average at 79 percent and the same as last year.

Noxon Rapids storage on the last day of May was 116 percent of average and 1 percent below last year.

June through July streamflows are forecast to be well below average at 52 percent and 61 percent above last year. Provisional May streamflow data for the Clark Fork River below Missoula was 91 percent of average and 63 percent above last May; and the Clark Fork River at St. Regis was 90 percent of average and 59 percent above last May.

Provisional daily streamflow peaks for the Clark Fork below Missoula indicate the peak occurred on May 17 at 23,413 cfs and 77 percent of average and for the Clark Fork at St. Regis May 17 at 30,600 cfs and 81 percent of average.

Surface Water Supply Index (SWSI) rating for the Clark Fork River below Bitterroot River was -2.3 and the Clark Fork River below Flathead River was -2.4.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 1993

	Future Conditions						
	← Drier →		Wetter →				
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
CLARK FORK ab Missoula							
JUN-JUL	215	315	385	51	455	555	753
JUN-SEP	350	460	540	57	620	730	947
CLARK FORK b1 Missoula							
JUN-JUL	515	665	770	52	875	1030	1490
JUN-SEP	700	870	985	55	1100	1270	1801
CLARK FORK at St. Regis (1)							
JUN-JUL	430	830	1010	53	1190	1590	1903
JUN-SEP	650	1100	1300	56	1500	1950	2313
CLARK FORK nr Plains (1,2)							
JUN-JUL	1520	2430	2840	52	3250	4160	5457
JUN-SEP	2100	3110	3570	55	4030	5040	6486

	<--- Drier --- Future Conditions --- Wetter --->					
Forecast Pt	Chance of Exceeding *					
Forecast	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
THOMPSON RIVER nr Thompson Falls						
JUN-JUL	21	35	44	49	53	67
JUN-SEP	38	54	64	55	75	90
PROSPECT CREEK at Thompson Falls						
JUN-JUL	13.0	17.0	21	48	26	34
JUN-SEP	19.0	23	28	53	34	42
CLARK FK at Whitehorse Rpds (1,2)						
JUN-JUL	1600	2630	3100	52	3570	4600
JUN-SEP	2270	3420	3940	55	4460	5610

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

LOWER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
NOXON RAPIDS	335.0	323.6	326.7	279.6

LOWER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
UPPER CLARK FORK	15	319	29
BITTERROOT	8	0	17
LOWER CLARK FORK	7	114	26
CLARK FORK TOTAL	28	214	26
FLATHEAD	19	231	49
PEND OREILLE	45	228	37

JEFFERSON RIVER BASIN as of June 1, 1993

Remaining snowpack in the Jefferson River Basin is well below average. Snow water content was 47 percent of average and 538 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was below average at 79 percent and 100 percent above last May. Water year precipitation, beginning October 1, 1992, is average at 93 percent and 25 percent above last year.

Reservoir storage on the last day of May was 75 percent of average and 21 percent above last year. Lima storage was 95 percent of average and 97 percent above last year; Clark Canyon storage was 59 percent of average and 6 percent below last year; and Ruby River storage was 107 percent of average and 34 percent above last year.

June through July streamflows are forecast to be below average at 70 percent and 125 percent above last year. Provisional May streamflow data for the Red Rock River near Monida was around 113 percent of average and 278 percent above last May; the Big Hole River near Melrose was 83 percent of average and 138 percent above last year; and the Jefferson River near Three Forks was 90 percent of average and 1553 percent above last May.

Provisional daily streamflow peaks for the Big Hole River near Melrose indicate the peak occurred on May 22 at 4,910 cfs and 66 percent of average.

Surface Water Supply Index (SWSI) rating for the Jefferson River was -2.2; the Beaverhead River was -2.8; the Ruby River was 1.1; the Big Hole River was -2.6; and the Boulder River was -2.4.

JEFFERSON RIVER BASIN
Streamflow Forecasts - June 1, 1993

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt Forecast Period	Chance of Exceeding * 90% 70% 50% (Most Prob) 30% 10% (1000AF) (1000AF) (1000AF) (% AVG.) (1000AF) (1000AF)					30 Yr Avg (1000AF)	
RED ROCK RIVER near Monida (2)							
JUN-JUL	18.0	26	31	79	36	44	39
JUN-SEP	21	32	39	83	46	57	47
BEAVERHEAD RIVER near GRANT (2)							
JUN-JUL	7.0	27	41	79	55	75	52
JUN-SEP	14.0	43	63	84	83	112	75
BEAVERHEAD RIVER at Barretts (2)							
JUN-JUL	23	46	61	84	77	99	73
JUN-SEP	41	71	91	88	111	141	104
RUBY RIVER near Alder							
JUN-JUL	15.0	25	33	73	41	53	45
JUN-SEP	25	38	46	75	54	67	61

	<--- Drier --- Future Conditions --- Wetter --->					
Forecast Pt	Chance of Exceeding *					
Forecast	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
BIG HOLE RIVER near Melrose						
JUN-JUL	156	210	250	72	290	349
JUN-SEP	190	260	305	75	350	406
BOULDER RIVER near Boulder						
JUN-JUL	11.0	20	27	68	34	40
JUN-SEP	12.0	24	32	70	40	46
WILLOW CREEK near Harrison						
JUN-JUL	4.5	5.7	6.5	60	7.3	10.8
JUN-SEP	4.1	6.5	8.2	63	9.9	13.0
JEFFERSON RIVER near Three Forks						
JUN-JUL	159	240	295	64	350	459
JUN-SEP	200	305	375	68	445	551

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

JEFFERSON RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
LIMA	84.0	61.3	31.1	64.2
CLARK CANYON	255.6	97.7	103.8	165.3
RUBY RIVER	38.8	40.7	30.3	37.9

JEFFERSON RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	8	302	54
RUBY	4	0	51
BIGHOLE	7	245	42
BOULDER	3	0	23
JEFFERSON	17	538	47



MADISON RIVER BASIN as of June 1, 1993

Remaining snowpack in the Madison River Basin is below average. Snow water content was 85 percent of average and last year the snowpack had melted out. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation during May was average at 96 percent and 52 percent above last May. Water year precipitation, beginning October 1, 1992, is average at 105 percent and 32 percent above last year.

Reservoir storage on the last day of May was 114 percent of average and 3 percent above last year. Ennis Lake storage was 101 percent of average and 3 percent below last year and Hebgen Lake storage was 115 percent of average and 3 percent above last year.

June through July streamflows are forecast to be below average at 84 percent and 29 percent above last year. Provisional May streamflow data at the Madison River near Grayling was 161 percent of average and 95 percent above last May.

Surface Water Supply Index (SWSI) rating for the Madison River was 2.1.

MADISON RIVER BASIN
Streamflow Forecasts - June 1, 1993

	<== Drier ==		Future Conditions		== Wetter ==>		
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)		30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
MADISON RIVER near Grayling							
JUN-JUL	157	173	184	92	195	210	200
JUN-SEP	255	280	295	96	310	335	307
MADISON RIVER near McAllister							
JUN-JUL	245	275	295	80	315	345	369
JUN-SEP	370	410	435	81	460	500	538

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

MADISON RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
ENNIS LAKE	41.0	36.1	37.2	35.8
HEBGEN LAKE	377.5	357.0	345.9	309.8

MADISON RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MADISON above HEBGEN	3	0	116
LOWER MADISON	5	0	64
MADISON	8	0	85

GALLATIN RIVER BASIN as of June 1, 1993

Remaining snowpack in the Gallatin River Basin is below average. Snow water content was 71 percent of average and 1226 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation during May was average at 99 percent and 25 percent above last May. Water year precipitation, beginning October 1, 1992, was average at 99 percent and 19 percent above last year.

Middle Creek storage on the last day of May was 119 percent of average and 1 percent above last year. Note: Middle Creek storage was increased by 2,200 acre-feet during the fall of 1992, therefore the percent of average is reflecting the new capacity with averages prior to the additional storage.

June through July streamflows are forecast to be below average at 86 percent and 121 percent above last year. Provisional May streamflow data for the Gallatin River near Gateway was 158 percent of average and about 54 percent above last May and the Gallatin River at Logan was 167 percent of average and 177 percent above last year.

Provisional daily peaks for the Gallatin River near Gallatin Gateway indicate the peak occurred May 22 at 5,585 cfs and 108 percent of average and for the Gallatin River near Logan occurred May 22 at 6,310 and 119 percent of average.

Surface Water Supply Index (SWSI) rating for the Gallatin River was 0.6.

GALLATIN RIVER BASIN
Streamflow Forecasts - June 1, 1993

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->						30 Yr Avg (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)		
GALLATIN RIVER near Gateway							
JUN-JUL	220	240	255	87	270	290	294
JUN-SEP	285	310	325	88	340	365	371
E & W FK HYALITE CREEK near Bozeman							
JUN-JUL	10.5	12.5	13.9	87	15.3	17.3	16
JUN-SEP	12.9	15.2	16.8	87	18.4	21	19.3
HYALITE CREEK near Bozeman							
JUN-JUL	13.0	17.0	19.0	88	22	25	22
JUN-SEP	18.0	22	25	89	28	32	28

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		30 Yr Avg (1000AF)
GALLATIN RIVER at Logan							
JUN-JUL	163	210	245	85	280	325	287
JUN-SEP	230	290	325	88	360	420	370

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

GALLATIN RIVER BASIN Reservoir Storage (1000AF) End of May				
Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
MIDDLE CREEK	10.2	8.3	8.2	7.0

GALLATIN RIVER BASIN Watershed Snowpack Analysis - June 1, 1993			
Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER GALLATIN	4	970	74
EAST GALLATIN	4	825	65
GALLATIN	7	1226	71

MAINSTEM MISSOURI RIVER BASIN as of June 1, 1993

Remaining snowpack in the Mainstem Missouri River Basin is well below average. Snow water content was 7 percent of average and 2700 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation during May was average at 93 percent and 61 percent above last May. Water year precipitation, beginning October 1, 1992, is average at 93 percent and 27 percent above last year.

Reservoir storage on the last day of May was 109 percent of average and 20 percent above last year. Canyon Ferry Lake storage was 110 percent of average and 22 percent above last year; Helena Valley storage was 108 percent of average and 39 percent above last year; Lake Helena storage was 108 percent of average and 2 percent below last year; Hauser & Helena storage was 104 percent of average and 1 percent below last year; Holter Lake storage was 104 percent of average and 1 percent below last year; and Fort Peck Lake storage was 72 percent of average and 1 percent below last year.

June through July streamflows are forecast to be well below average at 66 percent and 59 percent above last year. Provisional May streamflow data for the Missouri River near Toston was 120 percent of average and 197 percent above last May; the Missouri River at Fort Benton was 129 percent of average and 284 percent above last May; the Missouri River near Landusky was 100 percent of average and 217 percent above last May; the Missouri River near Virgelle was 110 percent of average and 229 percent above last May; and the Missouri River below Fort Peck was 91 percent of average and 244 percent above last May.

Provisional daily streamflow peaks for the Missouri River near Toston indicate the peak occurred May 23 at 17,000 cfs and 95 percent of average.

Surface Water Supply Index (SWSI) rating for the Missouri River above Canyon Ferry was 0.3; the Missouri River below Canyon Ferry was 0.8; the Missouri River above Ft. Peck was 1.0; and the Missouri River below Ft. Peck was -1.6.

MAINSTEM MISSOURI RIVER BASIN
Streamflow Forecasts - June 1, 1993

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->					
	Chance of Exceeding *					
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MISSOURI RIVER at Toston						
JUN-JUL	610	745	840	75	935	1070
JUN-SEP	875	1050	1170	80	1290	1470
PRICKLY PEAR CREEK near Clancy						
JUN-JUL	2.2	6.1	9.2	77	12.3	16.9
JUN-SEP	3.6	8.5	12.4	78	16.3	22

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->						30 Yr Avg (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)		
SMITH RIVER near Fort Logan							
JUN-JUL	13.1	23	30	83	37	47	36
JUN-SEP	21	32	40	85	48	59	47
SUN RIVER at Gibson Dam							
JUN-JUL	101	143	171	61	199	240	281
JUN-SEP	144	186	215	65	245	285	329
MISSOURI RIVER at Fort Benton							
JUN-JUL	685	1030	1270	76	1510	1850	1671
JUN-SEP	1080	1510	1810	80	2110	2540	2262
MARIAS RIVER near Shelby							
JUN-JUL	-12.0	12.0	44	19	87	151	236
JUN-SEP	-6.0	32	73	26	115	176	277
MISSOURI RIVER at Virgelle							
JUN-JUL	335	900	1280	66	1660	2230	1942
JUN-SEP	780	1380	1790	70	2200	2800	2564
MISSOURI RIVER near Landusky							
JUN-JUL	550	945	1350	64	1750	2350	2109
JUN-SEP	945	1520	1910	68	2300	2870	2792
MISSOURI RIVER below Fort Peck							
JUN-JUL	455	850	1290	62	1730	2380	2072
JUN-SEP	750	1350	1760	71	2170	2770	2490
LAKE SAKAKAWEA Inflow (2)							
JUN-JUL	1270	2930	4050	66	5170	6830	6111
JUN-SEP	2110	3890	5100	73	6310	8090	6989

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

MAINSTEM MISSOURI RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
CANYON FERRY LAKE	2043.0	1820.0	1493.0	1659.0
HELENA VALLEY	9.2	7.9	5.7	7.3
LAKE HELENA	10.4	10.9	11.1	10.1
HAUSER & HELENA	61.9	63.1	63.7	60.9
HOLTER LAKE	81.9	81.0	81.4	78.0
FORT PECK LAKE (MAF)	18.9	11.1	11.2	15.5

MAINSTEM MISSOURI RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
MISSOURI HEADWATERS	28	1129	69
WEST SIDE MISSOURI	3	0	0
SMITH-BELT	4	1950	15
MAINSTEM MISSOURI	7	1950	12
SUN-TETON-MARIAS	6	0	4
JUDITH-MUSSELSHELL	3	1850	23
MISSOURI above FORT PECK	40	1134	51
MILK RIVER	6	0	0
MISSOURI in MONTANA	45	1134	51
MISSOURI blw YELLOWSTONE	88	377	54

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of June 1, 1993

Remaining snowpack in the Smith-Judith-Musselshell River Basins are well below average. Snow water content was 15 percent of average and 1950 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation during May was average at 91 percent and 21 percent above last May. Water year precipitation, beginning October 1, 1992, remains average at 93 percent and is 12 percent above last year.

Reservoir storage on the last day of May was above average at 125 percent and 57 percent above last year. Smith River storage was 96 percent of average and 110 percent above last year; Bair storage was 115 percent of average and 25 percent above last year; Martinsdale storage was 128 percent of average and 307 percent above last year; and Deadman's Basin was 128 percent of average and 29 percent above last year.

June through July streamflows are forecast to be below average at 84 percent and 259 percent above last year. Provisional May streamflow data for the Smith River near Fort Logan was 109 percent of average and about 390 percent above last May.

Surface Water Supply Index (SWSI) rating for the Smith River was -1.6 and the Musselshell River was 1.9.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - June 1, 1993

	<--- Drier ---		Future Conditions		--- Wetter --->		
Forecast Pt	Chance of Exceeding * -----						
Forecast	90%	70%	50% (Most Prob)		30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	(1000AF)
SMITH RIVER	near Fort Logan						
JUN-JUL	13.0	23	30	83	37	47	36
JUN-SEP	21	32	40	85	48	59	47
SHEEP CREEK	nr White Sulphur Springs						
JUN-JUL	4.5	6.9	8.5	85	10.1	12.5	10.0
JUN-SEP	6.9	9.6	11.4	88	13.2	15.9	12.9
NF MUSSELSHELL	near Delpine						
JUN-JUL	0.8	1.4	1.9	83	2.4	3.0	2.3
JUN-SEP	1.1	2.0	2.6	84	3.2	4.1	3.1

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		30 Yr Avg (1000AF)
SF MUSSELSHELL abv Martinsdale							
JUN-JUL	5.0	15.0	22	85	29	39	26
JUN-SEP	6.0	17.0	25	86	33	44	29

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
SMITH RIVER	10.6	10.1	4.8	10.5
NEULAN CREEK		NO REPORT		
BAIR	7.0	7.1	5.7	6.2
MARTINSDALE	23.1	24.0	5.9	17.2
DEADMAN'S BASIN	72.2	70.4	54.7	55.1

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SMITH-BELT	4	1950	15
JUDITH-MUSSELSHELL	3	1850	23

SUN-TETON-MARIAS RIVER BASINS as of June 1, 1993

Remaining snowpack in the Sun-Teton-Marias River Basins are well below average. Snow water content was 4 percent of average and last year the snowpack had melted out. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was above average at 110 percent and 142 percent above last May. Water year precipitation, beginning October 1, 1992, remains below average at 83 percent and 15 percent above last year.

Reservoir storage on the last day of May was 113 percent of average and 16 percent above last year. Gibson storage was 109 percent of average and 25 percent above last year; Pishkun storage was 98 percent of average and 2 percent above last year; Willow Creek storage was 94 percent of average and 11 percent above last year; Lower Two Medicine Lake storage was 113 percent of average and 4 percent above last year; Four Horns Lake storage was 103 percent of average and 11 percent above last year; Swift storage was 83 percent of average and 22 percent above last year; Lake Frances storage was 74 percent of average and 1 percent below last year; and Lake Elwell (Tiber) storage was 121 percent of average and 18 percent above last year.

June through July streamflows are forecast to be well below average at 43 percent and 51 percent above last year. Provisional May streamflow data for the Sun River at Gibson Dam was 121 percent of average and 65 percent above last May and the Marias River near Shelby was 93 percent of average and 190 percent above last May.

Provisional daily streamflow peaks for the Marias River near Shelby indicate the peak occurred on May 18 at 3,410 cfs and 33 percent of average.

Surface Water Supply Index (SWSI) rating for the Sun River was -1.8; the Teton River was -2.2; the Marias River was -2.5; and the Birch/Dupuyer Creeks were -2.8.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - June 1, 1993

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		30 Yr Avg (1000AF)
SUN RIVER at Gibson Dam							
JUN-JUL	101	143	171	61	199	240	281
JUN-SEP	144	186	215	65	245	285	329
TWO MEDICINE RIVER near Browning							
JUN-JUL	21	34	48	46	74	112	105
JUN-SEP	33	46	59	50	86	125	117

Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter --->						30 Yr Avg (1000AF)
	Chance of Exceeding * -----						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)		
BADGER CREEK near Browning							
JUN-JUL	15.0	20	25	44	35	51	57
JUN-SEP	26	32	38	51	49	65	74
SWIFT RESERVOIR Inflow near Dupuyer							
JUN-JUL	11.0	15.0	19.0	50	26	37	38
JUN-SEP	19.0	24	29	58	37	49	50
DUPUYER CREEK near Valier							
JUN-JUL	2.0	2.9	3.8	50	7.6	13.2	7.6
JUN-SEP	3.6	4.7	5.7	60	9.9	16.1	9.5
CUT BANK CREEK at Cut Bank							
JUN-JUL	14.0	19.0	24	51	30	39	47
JUN-SEP	16.0	25	31	55	37	46	56
MARIAS RIVER near Shelby							
JUN-JUL	-12.0	12.0	44	19	87	151	236
JUN-SEP	-6.0	32	73	26	115	176	277

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

SUN-TETON-MARIAS RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
GIBSON	99.1	97.9	78.0	90.1
PISHKUN	32.0	29.5	28.9	30.1
WILLOW CREEK	32.2	26.8	24.2	28.5
LOWER TWO MEDICINE LAKE	11.9	12.5	12.0	11.1
FOUR HORNS LAKE	19.2	13.4	12.1	13.0
SWIFT	30.0	20.6	16.9	24.8
LAKE FRANCES	112.0	65.1	65.5	87.4
LAKE ELWELL (TIBER)	1347.0	839.3	711.8	690.8

SUN-TETON-MARIAS RIVER BASINS
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SUN-TETON	3	0	0
MARIAS	3	0	5
SUN-TETON-MARIAS	6	0	4

ST. MARY and MILK RIVER BASINS as of June 1, 1993

Remaining snowpack in the St. Mary and Milk River Basins are well below average. Snow water content was 41 percent of average and 127 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was well below average at 67 percent and 26 percent above last May. Water year precipitation, beginning October 1, 1992, remains below average at 79 percent and 4 percent above last year.

Reservoir storage on the last day of May was 85 percent of average and 89 percent above last year. Lake Sherburne storage was 111 percent of average and 89 percent above last year; Fresno storage was 82 percent of average and 106 percent above last year; Beaver Creek storage was 114 percent of average and 22 percent above last year; and Nelson storage was 69 percent of average and 63 percent above last year.

June through July streamflows are forecast to be well below average at 56 percent of average.

Surface Water Supply Index (SWSI) rating for the Milk River (USBR) users was -2.8 and the Milk River (other users) was -3.5.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - June 1, 1993

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding * -----						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
SWIFTCURRENT CREEK at Sherburne							
JUN-JUL	24	31	35	55	39	46	64
JUN-SEP	31	40	46	57	52	61	81
ST. MARY RIVER near Babb							
JUN-JUL	122	136	146	56	156	170	261
JUN-SEP	175	196	210	64	225	245	329
MILK RIVER at Eastern Crossing							
MAY-SEP	77	99	125	63	162	197	197

	<--- Drier --- Future Conditions --- Wetter --->					
Forecast Pt	Chance of Exceeding *					
Forecast	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
MILK RIVER at Eastern Crossing (2)						
MAY-SEP	11.0	15.0	19.0	45	39	43

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** Usable Storage *****		
		This Year	Last Year	Average
LAKE SHERBURNE	64.3	35.4	18.7	32.0
FRESNO	127.0	73.0	35.4	89.1
BEAVER CREEK	3.5	3.3	2.7	2.9
NELSON	66.8	29.4	18.0	42.6

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of	
		Last Year	Average
MILK HEADWATERS	2	0	0
BEAR PAW	4	0	0
MILK RIVER	6	0	0
ST. MARY	3	127	42
ST. MARY and MILK	7	127	41
BOW RIVER in ALBERTA	0	0	0
OLDMAN RIVER in ALBERTA	0	0	0

UPPER YELLOWSTONE RIVER BASIN as of June 1, 1993

Remaining snowpack in the Upper Yellowstone River Basin is well below average. Snow water content was 65 percent of average and 293 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was average at 99 percent and 24 percent above last May. Water year precipitation, beginning October 1, 1992, average at 95 percent and 11 percent above last year.

Reservoir storage on the last day of May was 129 percent of average and 3 percent below last year. Mystic Lake storage was 138 percent of average and 38 percent below last year and Cooney storage was 127 percent of average and 16 percent above last year.

June through July streamflows are forecast to be well below average at 69 percent and 46 percent above last year. Provisional May streamflow data for the Yellowstone River at Corwin was 185 percent of average and 26 percent above last May; the Yellowstone River near Livingston was 169 percent of average and 15 percent above last May; the Boulder River at Big Timber was 117 percent of average and around 4 percent above last May; West Rosebud Creek near Roscoe was 143 percent of average and 13 percent below last May; the Clark's Fork River near Belfry was 150 percent of average and 8 percent below last May; and the Yellowstone River near Billings was 153 percent of average and 30 percent above last May.

Provisional daily streamflow peaks for the Yellowstone River at Corwin Springs indicate the peak occurred on May 21 at 19,500 cfs and 116 percent of average; the Yellowstone River at Livingston on May 22 at 21,213 cfs and 107 percent of average; the Boulder River near Big Timber on May 22 at 2,950 and 58 percent of average; the Stillwater River near Absarokee on May 22 at 3,691 cfs and 58 percent of average; the Clarks Fork River near Belfry on May 22 at 5,860 cfs and 78 percent of average; and the Yellowstone River at Billings on May 23 ate 36,800 cfs and 90 percent of average.

Surface Water Supply Index (SWSI) rating for the Yellowstone River above Bighorn River was -0.4; the Yellowstone River above Livingston was 2.2; the Shields River was 1.6; the Boulder River was -0.6; the Stillwater River was -0.9; the Rock/Red Lodge Creeks were -0.4; and the Clarks Fork River was -0.5.

UPPER YELLOWSTONE RIVER BASIN Streamflow Forecasts - June 1, 1993

Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==>					
	Chance of Exceeding *		Chance of Exceeding *		Chance of Exceeding *	
	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg
	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
YELLOWSTONE at Lake Outlet						
JUN-JUL	250	295	325	69	355	400
JUN-SEP	395	450	485	70	520	575
						472
						691

Forecast Pt Forecast Period	← Drier Future Conditions Wetter →						30 Yr Avg (1000AF)
	Chance of Exceeding * ←						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)		
YELLOWSTONE RIVER at Corwin Springs							
JUN-JUL	685	755	800	69	845	915	1156
JUN-SEP	880	975	1040	70	1110	1200	1484
YELLOWSTONE RIVER near Livingston							
JUN-JUL	760	855	920	69	985	1080	1335
JUN-SEP	1010	1130	1210	70	1290	1410	1721
SHIELDS RIVER near Livingston							
JUN-JUL	33	50	61	79	73	89	77
JUN-SEP	46	66	79	83	92	112	95
BOULDER RIVER at Big Timber							
JUN-JUL	152	174	189	75	205	225	253
JUN-SEP	162	191	210	74	230	260	282
WEST ROSEBUD CREEK near Roscoe							
JUN-JUL	32	37	40	78	44	49	51
JUN-SEP	45	51	55	80	59	65	69
STILLWATER RIVER nr Absarokee							
JUN-JUL	225	255	275	72	295	325	380
JUN-SEP	270	315	345	73	375	420	475
CLARKS FORK RIVER near Belfry							
JUN-JUL	200	245	270	68	295	340	395
JUN-SEP	220	270	300	66	330	380	453
RED LODGE CREEK blw Cooney Res							
JUN-JUL	3.0	9.0	14.0	57	18.0	24	24
JUN-SEP	6.0	16.0	22	64	29	39	35
YELLOWSTONE RIVER at Billings							
JUN-JUL	1230	1500	1690	67	1880	2150	2525
JUN-SEP	1530	1870	2110	67	2350	2690	3159

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
MYSTIC LAKE	21.0	7.6	12.3	5.5
COONEY	27.4	25.4	21.8	20.0

UPPER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
YELLOWSTONE ab LIVINGSTON	10	309	65
SHIELDS	4	0	65
BOULDER-STILLWATER	3	357	78
CLARK'S FORK-ROCK CREEK	9	182	63
UPPER YELLOWSTONE above BIGH	22	293	65

LOWER YELLOWSTONE RIVER BASIN as of June 1, 1993

Remaining snowpack in the Lower Yellowstone River Basin is well below average. Snow water content was 92 percent of average and 163 percent of last year. Refer to the watershed snowpack analysis that follows for individual watershed percent of average and percent of last year figures.

Mountain precipitation for May was above average at 118 percent and 10 percent above last May. Water year precipitation, beginning October 1, 1992, is average at 96 percent and 1 percent above last year.

Reservoir storage on the last day of May was 111 percent of average and 10 percent above last year. Bighorn Lake storage was 112 percent of average and 10 percent above last year and the Tongue River storage was 93 percent of average and 2 percent above last year.

June through July streamflows are forecast to be below average at 70 percent and 34 percent above last year. Provisional May streamflow data for the Bighorn River near Saint Xavier was 143 percent of average and around 125 percent above last May; the Yellowstone River at Miles City was 135 percent of average and 47 percent above last May; the Powder River near Locate was 119 percent of average and 766 percent above last May; and the Yellowstone River near Sidney was 135 percent of average and 56 percent above last May.

Surface Water Supply Index (SWSI) rating for the Yellowstone River below Bighorn River was 0.3; the Bighorn River below Bighorn Lake was 1.1; the Little Bighorn River was -2.0; the Tongue River was -1.1; and the Powder River was 0.2.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 1993

	<--- Drier --- Future Conditions --- Wetter --->					
Forecast Pt	Chance of Exceeding *					
Forecast	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
YELLOWSTONE RIVER at Billings						
JUN-JUL	1230	1500	1690	67	1880	2150
JUN-SEP	1530	1870	2110	67	2350	2690
BIG HORN RIVER nr St. Xavier (2)						
JUN-JUL	360	615	790	69	965	1220
JUN-SEP	455	730	920	70	1110	1390
LITTLE BIGHORN RIVER nr Hardin						
JUN-JUL	10.0	32	47	63	62	84
JUN-SEP	15.0	40	57	62	74	99
TONGUE RIVER near Decker (2)						
JUN-JUL	36	77	104	79	132	172
JUN-SEP	50	95	126	81	157	200

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
YELLOWSTONE at Miles City (2)							
JUN-JUL	1450	2150	2630	70	3110	3810	3753
JUN-SEP	1940	2700	3210	69	3720	4480	4631
POWDER RIVER at Moorhead							
JUN-JUL	21	67	99	85	131	177	116
JUN-SEP	28	77	110	80	143	193	138
POWDER RIVER near Locate							
JUN-JUL	29	82	119	86	156	210	138
JUN-SEP	31	90	131	81	172	230	162
YELLOWSTONE RIVER nr Sidney (2)							
JUN-JUL	1400	2210	2760	70	3310	4120	3928
JUN-SEP	485	2190	3340	70	4490	6190	4763

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

LOWER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
BIGHORN LAKE	1356.0	958.1	869.2	855.6
TONGUE RIVER	68.0	45.0	43.9	48.2

LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WIND RIVER (Wyoming)	10	5975	45
BIGHORN RIVER (Wyoming)	15	180	49
LITTLE BIGHORN	2	92	42
TONGUE RIVER (Wyoming)	5	92	27
POWDER RIVER (Wyoming)	6	76	10
YELLOWSTONE RIVER	46	278	57

Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

See attached list.

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

All programs and services of the USDA Soil Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.



United States Department of Agriculture
Soil Conservation Service
Bozeman, Montana

Where to Get More Information

Beaverhead County
Scott Zimmerman
683-4963

Big Horn County
Wayne Nipple
665-3777

Blaine County
Matthew Crampton
357-2310

Broadwater County
Larry Robertson
266-3146

Carbon County
A. Ray McPhail
962-3641

Carter County
Wayne Yost
775-6355

Cascade County
Danny Burgett
727-3603

Chouteau County
Dale Krause
622-5627

Custer County
Roger Goff
232-2439

Daniels County
Stanley French
487-2872

Dawson County
Michael Carlson
365-5565

Deer Lodge County
Glen Green
846-1703

Fallon County
Rick Caquelin
778-2217

Fergus County
Theodore Hawn
538-7401

Flathead County
Richard Pettersen
752-4242

Gallatin County
Gordon Hill
587-6929

Garfield County
Clarence Clayton
557-2232

Glacier County
Dennis Dellwo
873-4292

Golden Valley County
John Rouane Jr
323-2103

Granite County
Matthew Crampton
859-3291

Hill County
George Cleek
265-6252

Jefferson County
Robert Leinard
287-3215

Judith Basin County
Julie Sacks
566-2311

Lake County
Carlos Rodriques
883-5875

Lewis and Clark County
Meg Bishop
449-5278

Liberty County
Eileen Eide
759-5779

Lincoln County
Angel Rosario
296-2233

Madison County
Michael Barron
842-5741

McCone County
Joe Carleton
485-2660

Meagher County
Owen McDonagh
547-3633

Mineral County
John Blaine
251-4826

Missoula County
John Blaine
251-4826

Musselshell County
John Rouane Jr
323-2103

Park County
Geri Sullivan
222-2899

Petroleum County
Theodore Hawn
538-7401

Phillips County
Allen McNeal
654-1334

(over)

Pondera County
Phyllis Philipps
278-3922

Powder River County
Carol Hilliard
436-2417

Powell County
Glen Green
846-1703

Prairie County
Mark Parman
637-5381

Ravalli County
Keith Robertson
363-5010

Richland County
Kim Whipple
482-2110

Roosevelt County
Richard Iversen
787-5232

Rosebud County
Rocklin Schwagler
356-7626

Sanders County
Timothy Julander
826-3701

Sheridan County
Monica Friedrich
765-1801

Silver Bow County
Robert Leinard
287-3215

Stillwater County
Philip Sandoval
322-5359

Sweet Grass County
Charles Roloff
932-5160

Teton County
Chris Murphy
466-5722

Toole County
David Pratt
434-5835

Treasure County
Rocklin Schwagler
356-7626

Valley County
Lanny Walker
228-4324

Wheatland County
John Oiestad
632-5534

Wibaux County
Rick Caquelin
778-2217

Yellowstone County
Harold Cottet Jr.
657-6527

100

100



Federal Building, Room 443
10 E. Babcock
Bozeman, MT 59715



SOIL CONSERVATION SERVICE

Montana
Basin Outlook Report
Soil Conservation Service
Bozeman, MT

